SUBJECT INDEX

	681	Information for Authors
ARTIFICIAL INTELLIGENCE	687	T. Dean—Using Temporal Hierarchies to Efficiently Maintain Large Temporal Databases
COMBINATORICS AND GRAPH THEORY	435	Csaba P. Gabor, Kenneth J. Supowit, and Wan-Lian Hsu—Recognizing Circle Graphs in Polynomial Time
	474	Thomas Lengauer—Hierarchical Planarity Testing Algorithms
	1	John H. Muller and Jeremy Spinrad—Incremental Modular Decomposition
	719	L. K. Platzman and J. J. Bartholdi, III—Spacefilling Curves and the Planar Travelling Salesman Problem
COMPUTATIONAL GEOMETRY	209	John D. Hobby—Rasterizing Curves of Constant Width
COMPUTER SYSTEMS	20	J. A. Brzozowski and C.-J. Seger—A Unified Framework for Race Analysis of Asynchronous Networks
	738	M. Dowd, Y. Perl, L. Rudolph, and M. Saks—The Periodic Balanced Sorting Network
	510	David Peleg and Eli Upfal—A Trade-Off between Space and Efficiency for Routing Tables
	531	Nicholas Pippenger—Invariance of Complexity Measures for Networks with Unreliable Gates
DATABASE THEORY	758	S. Abiteboul and V. Vianu—A Transaction-Based Approach to Relational Database Specification
	230	Catriel Beeri, Philip A. Bernstein, and Nathan Goodman—A Model for Concurrency in Nested Transactions Systems
	790	M. Gyssens, J. Paredaens, and D. VanGucht—A Uniform Approach toward Handling Atomic and Structured Information in the Nested Relational Database Model
	46	William W. McCune and Lawrence J. Henschen—Maintaining State Constraints in Relational Databases: A Proof Theoretic Basis
	69	Jeffrey F. Naughton—Minimizing Function-Free Recursive Inference Rules
	270	Walter Cunto and J. Ian Munro—Average Case Selection
DATA STRUCTURES AND ALGORITHMS	540	Harold N. Gabow, Zvi Galil, and Thomas H. Spencer—Efficient Implementation of Graph Algorithms Using Contraction
	573	Sanjiv Kapoor and Edward M. Reingold—Optimum Lopsided Binary Trees
	280	Rolf Klein and Derick Wood—On the Path Length of Binary Trees
	290	G. K. Manacher, T. D. Bui, and T. Mai—Optimum Combinations of Sorting and Merging
DISTRIBUTED COMPUTING	591	Benny Chor, Michael Merritt, and David B. Shmoys—Simple Constant-Time Consensus Protocols in Realistic Failure Models
	335	Michael O. Rabin—Efficient Dispersal of Information for Security, Load Balancing, and Fault Tolerance
	826	J. L. A. van de Snepscheut and J. B. Swenker—On the Design of Some Systolic Algorithms
FORMAL LANGUAGES	92	Jens M. Dill—A Counter-Example for "A Simpler Construction for Showing the Intrinsically Exponential Complexity of the Circularity Problem for Attribute Grammars"
	841	J. Engelfriet and G. Filé—Passes, Sweeps, and Visits in Attribute Grammars
	870	J. Kortelainen—The Conjecture of Fliess on Commutative Context-Free Languages
PROGRAMMING LANGUAGES AND METHODOLOGY	887	I. Castellani and M. Hennessy—Distributed Bisimulations

SUBJECT INDEX

	681	Information for Authors
ARTIFICIAL INTELLIGENCE	687	T. Dean—Using Temporal Hierarchies to Efficiently Maintain Large Temporal Databases
COMBINATORICS AND GRAPH THEORY	435	Csaba P. Gabor, Kenneth J. Supowit, and Wan-Lian Hsu—Recognizing Circle Graphs in Polynomial Time
	474	Thomas Lengauer—Hierarchical Planarity Testing Algorithms
	1	John H. Muller and Jeremy Spinrad—Incremental Modular Decomposition
	719	L. K. Platzman and J. J. Bartholdi, III—Spacefilling Curves and the Planar Travelling Salesman Problem
COMPUTATIONAL GEOMETRY	209	John D. Hobby—Rasterizing Curves of Constant Width
COMPUTER SYSTEMS	20	J. A. Brzozowski and C.-J. Seger—A Unified Framework for Race Analysis of Asynchronous Networks
	738	M. Dowd, Y. Perl, L. Rudolph, and M. Saks—The Periodic Balanced Sorting Network
	510	David Peleg and Eli Upfal—A Trade-Off between Space and Efficiency for Routing Tables
	531	Nicholas Pippenger—Invariance of Complexity Measures for Networks with Unreliable Gates
DATABASE THEORY	758	S. Abiteboul and V. Vianu—A Transaction-Based Approach to Relational Database Specification
	230	Catriel Beeri, Philip A. Bernstein, and Nathan Goodman—A Model for Concurrency in Nested Transactions Systems
	790	M. Gyssens, J. Paredaens, and D. VanGucht—A Uniform Approach toward Handling Atomic and Structured Information in the Nested Relational Database Model
	46	William W. McCune and Lawrence J. Henschen—Maintaining State Constraints in Relational Databases: A Proof Theoretic Basis
	69	Jeffrey F. Naughton—Minimizing Function-Free Recursive Inference Rules
	270	Walter Cunto and J. Ian Munro—Average Case Selection
DATA STRUCTURES AND ALGORITHMS	540	Harold N. Gabow, Zvi Galil, and Thomas H. Spencer—Efficient Implementation of Graph Algorithms Using Contraction
	573	Sanjiv Kapoor and Edward M. Reingold—Optimum Lopsided Binary Trees
	280	Rolf Klein and Derick Wood—On the Path Length of Binary Trees
	290	G. K. Manacher, T. D. Bui, and T. Mai—Optimum Combinations of Sorting and Merging
DISTRIBUTED COMPUTING	591	Benny Chor, Michael Merritt, and David B. Shmoys—Simple Constant-Time Consensus Protocols in Realistic Failure Models
	335	Michael O. Rabin—Efficient Dispersal of Information for Security, Load Balancing, and Fault Tolerance
	826	J. L. A. van de Snepscheut and J. B. Swenker—On the Design of Some Systolic Algorithms
FORMAL LANGUAGES	92	Jens M. Dill—A Counter-Example for "A Simpler Construction for Showing the Intrinsically Exponential Complexity of the Circularity Problem for Attribute Grammars"
	841	J. Engelfriet and G. Filé—Passes, Sweeps, and Visits in Attribute Grammars
	870	J. Kortelainen—The Conjecture of Fliess on Commutative Context-Free Languages
PROGRAMMING LANGUAGES AND METHODOLOGY	887	I. Castellani and M. Hennessy—Distributed Bisimulations

OPERATIONS RESEARCH	**873**	A. V. Goldberg and R. E. Tarjan—Finding Minimum-Cost Circulations by Canceling Negative Cycles
	97	Paul Helman—A Common Schema for Dynamic Programming and Branch and Bound Algorithms
	349	Arnon Rosenthal and José A. Pino—A Generalized Algorithm for Centrality Problems on Trees
SYMBOLIC ALGEBRA	**142**	Michael Kaminski—A Note on Probabilistically Verifying Integer and Polynomial Products
	150	Michael Kaminski and Nader H. Bshouty—Multiplicative Complexity of Polynomial Multiplication over Finite Fields
SYSTEM MODELING AND ANALYSIS	**615**	François Baccelli, William A. Massey, and Don Towsley—Acyclic Fork-Join Queuing Networks
	171	Edmundo de Souza e Silva and H. Richard Gail—Calculating Availability and Performability Measures of Repairable Computer Systems Using Randomization
	194	Edmundo de Souza e Silva and S. S. Lavenberg—Calculating Joint Queue Length Distributions in Product Form Queuing Networks
THEORY OF COMPUTATION	**912**	Eric W. Allender—P-Uniform Circuit Complexity
	643	Paul Beame and Johan Hastad—Optimal Bounds for Decision Problems on the CRCW PRAM
	362	G. Bilardi and F. P. Preparata—Size–Time Complexity of Boolean Networks for Prefix Computations
	929	A. Blumer, A. Ehrenfeucht, D. Haussler, and M. K. Warmuth—Learnability and the Vapnik–Chervonenkis Dimension
	129	Joan Boyar—Inferring Sequences Produced by Pseudo-Random Number Generators
	671	Ming Li and Yaacov Yesha—New Lower Bounds for Parallel Computation
	383	L. Pitt—Probabilistic Inductive Inference

AUTHOR INDEX

ABITEBOUL, S.	**758**	A Transaction-Based Approach to Relational Database Specification
ALLENDER, ERIC W.	**912**	P-Uniform Circuit Complexity
BACCELLI, FRANÇOIS	**615**	Acyclic Fork–Join Queuing Networks
BARTHOLDI, J. J., III	**719**	See Platzman, L. K.
BEAME, PAUL	**643**	Optimal Bounds for Decision Problems on the CRCW PRAM
BEERI, CATRIEL	**230**	A Model for Concurrency in Nested Transactions Systems
BERNSTEIN, PHILIP A.	**230**	See Beeri, Catriel
BILARDI, G.	**362**	Size–Time Complexity of Boolean Networks for Prefix Computations
BLUMER, A.	**929**	Learnability and the Vapik–Chervonenkis Dimension
BOYAR, JOAN	**129**	Inferring Sequences Produced by Pseudo-Random Number Generators
BRZOZOWSKI, J. A.	**20**	A United Framework for Race Analysis of Asynchronous Networks
BSHOUTY, NADER H.	**150**	See Kaminski, Michael, Multiplicative Complexity of Polynomial Multiplication over Finite Fields
BUI, T. D.	**290**	See Manacher, G. K.
CASTELLANI, I.	**887**	Distributed Bisimulations
CHOR, BENNY	**591**	Simple Constant-Time Consensus Protocols in Realistic Failure Models
CUNTO, WALTER	**270**	Average Case Selection
DEAN, T.	**687**	Using Temporal Hierarchies to Efficiently Maintain Large Temporal Databases
DE SOUZA E SILVA, EDMUNDO	**171**	Calculating Availability and Performability Measures of Repairable Computer Systems Using Randomization
DE SOUZA E SILVA, EDMUNDO	**194**	Calculating Joint Queue Length Distributions in Product Form Queuing Networks
DILL, JENS M.	**92**	A Counter-Example for "A Simpler Construction for Showing the Intrinsically Exponential Complexity of the Circularity Problem for Attribute Grammars"
DOWD, M.	**738**	The Periodic Balanced Sorting Network
EHRENFEUCHT, A.	**929**	See Blumer, A.
ENGELFRIET, J.	**841**	Passes, Sweeps, and Visits in Attribute Grammars
FILÉ, G.	**841**	See Engelfriet, J.
GABOR, CSABA P.	**435**	Recognizing Circle Graphs in Polynomial Time
GABOW, HAROLD N.	**540**	Efficient Implementation of Graph Algorithms Using Contraction
GAIL, H. RICHARD	**171**	See de Souza e Silva, Edmundo, Calculating Availability and Performability Measures of Repairable Computer Systems Using Randomization
GALIL, ZVI	**540**	See Gabow, Harold N.
GOLDBERG, A. V.	**873**	Finding Minimum-Cost Circulations by Canceling Negative Cycles
GOODMAN, NATHAN	**230**	See Beeri, Catriel
GYSSENS, M.	**790**	A Uniform Approach toward Handling Atomic and Structured Information in the Nested Relational Database Model
HASTAD, JOHAN	**643**	See Beame, Paul
HAUSSLER, D.	**929**	See Blumer, A.
HELMAN, PAUL	**97**	A Common Schema for Dynamic Programming and Branch and Bound Algorithms
HENNESSY, M.	**887**	See Castellani, I.
HENSCHEN, LAWRENCE J.	**46**	See McCune, William W.
HOBBY, JOHN D.	**209**	Rasterizing Curves of Constant Width
HSU, WEN-LIAN	**435**	See Gabor, Csaba P.
KAMINSKI, MICHAEL	**142**	A Note on Probabilistically Verifying Integer and Polynomial Products
KAMINSKI, MICHAEL	**150**	Multiplicative Complexity of Polynomial Multiplication over Finite Fields
KAPOOR, SANJIV	**573**	Optimum Lopsided Binary Trees
KLEIN, ROLF	**280**	On the Path Length of Binary Trees
KORTELAINEN, J.	**870**	The Conjecture of Fliess on Commutative Context-Free Languages
LAVENBERG, S. S.	**194**	See de Souza e Silva, Edmundo, Calculating Joint Queue Length Distributions in Product Form Queuing Networks
LENGAUER, THOMAS	**474**	Hierarchical Planarity Testing Algorithms
LI, MING	**671**	New Lower Bounds for Parallel Computation
MAI, T.	**290**	See Manacher, G. K.
MANACHER, G. K.	**290**	Optimum Combinations of Sorting and Merging
MASSEY, WILLIAM A.	**615**	See Baccelli, François
McCUNE, WILLIAM W.	**46**	Maintaining State Constraints in Relational Databases: A Proof Theoretic Basis

MERRITT, MICHAEL	**591**	See Chor, Benny
MULLER, JOHN H.	**1**	Incremental Modular Decomposition
MUNRO, J. IAN	**270**	See Cunto, Walter
NAUGHTON, JEFFREY F.	**69**	Minimizing Function-Free Recursive Inference Rules
PAREDAENS, J.	**790**	See Gyssens, M.
PELEG, DAVID	**510**	A Trade-Off between Space and Efficiency for Routing Tables
PERL, Y.	**738**	See Dowd, M.
PINO, JOSÉ A.	**349**	See Rosenthal, Arnon
PIPPENGER, NICHOLAS	**531**	Invariance of Complexity Measures for Networks with Unreliable Gates
PITT, L.	**383**	Probabilistic Inductive Inference
PLATZMAN, L. K.	**719**	Spacefilling Curves and the Planar Travelling Salesman Problem
PREPARATA, F. P.	**362**	See Bilardi, G.
RABIN, MICHAEL O.	**335**	Efficient Dispersal of Information for Security, Load Balancing, and Fault Tolerance
REINGOLD, EDWARD M.	**573**	See Kapoor, Sanjiv
ROSENTHAL, ARNON	**349**	A Generalized Algorithm for Centrality Problems on Trees
RUDOLPH, L.	**738**	See Dowd, M.
SAKS, M.	**738**	See Dowd, M.
SEGER, C.-J.	**20**	See Brzozowski, J. A.
SHMOYS, DAVID B.	**591**	See Chor, Benny
SPENCER, THOMAS H.	**540**	See Gabow, Harold N.
SPINRAD, JEREMY	**1**	See Muller, John H.
SUPOWIT, KENNETH J.	**435**	See Gabor, Csaba P.
SWENKER, J. B.	**826**	See van de Snepcheut, J. L. A.
TARJAN, R. E.	**873**	See Goldberg A. V.
TOWSLEY, DON	**615**	See Baccelli, François
UPFAL, ELI	**510**	See Peleg, David
VAN DE SNEPSCHEUT, J. L. A.	**826**	On the Design of Some Systolic Algorithms
VANGUCHT, D.	**790**	See Gyssens, M.
VIANU, V.	**758**	See Abiteboul, S.
WARMUTH, M. K.	**929**	See Blumer, A.
WOOD, DERICK	**280**	See Klein, Rolf
YESHA, YAACOV	**671**	See Li, Ming